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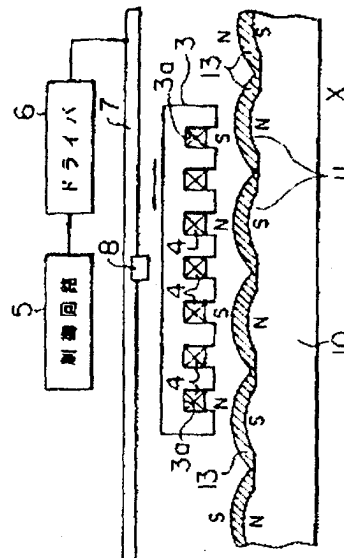
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INVENTOR : OISHI TETSUO;

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TITLE : LINEAR SERVO MOTOR



ABSTRACT : PURPOSE: To make generated thrust constant by matching the inside periphery of a permanent magnet, whose cross section in the longitudinal direction is defined by one part each of two parallel circular arcs, elliptical arcs, or hyperbolas, to projections provided at a field iron core.

CONSTITUTION: The longitudinal sectional form of a permanent magnet 13 is defined by one part each of two parallel circular arcs, two parallel elliptical arcs, or two parallel hyperbolas, and projections 11, with which the inside periphery of the permanent magnet 13 can match, are provided at regular intervals in the longitudinal direction on the face opposed to an armature iron core 3, of a field iron core 10, thus these projections 11 and the inside periphery of the permanent magnet 13 are matched with each other. And it is so arranged that the magnetic poles appearing at the top of the permanent magnet 13 may appear alternately as N pole, S pole. Accordingly, the permanence of a magnetic circuit is highest at the center of the permanent magnet 13, and becomes lower as it goes to the end, and becomes lowest between adjacent permanent magnets 13. Hereby, the space distribution of a field magnetic fluxes approximates a sine wave, and the thrust applied to the field iron core 10 can be made a smooth constant value.

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